

COMPLETE LISTING OF CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) In a data communications receiver functionally connected to a communications loop to receive a data signal transmitted across the loop by a transmitter, the receiver having a linear equalizer operable to compensate for distortion in the data signal caused by the communications loop and a timing loop for maintaining signal timing between the transmitter and receiver, the timing loop including a phase detector, an improvement comprising a timing equalizer filter functionally positioned before the phase detector of ~~within~~ the timing loop and operating in parallel with and independent of the linear equalizer during a data mode, the timing equalizer filter having fixed coefficients whereby the signal timing controlled by the timing loop can be maintained independently of timing adjustments made in the linear equalizer.
2. (Currently Amended) The improved data communications receiver of claim 1 wherein the timing equalizer filter includes filter coefficients derived from a training mode operation of the linear equalizer.
3. (Original) The improved data communications receiver of claim 1 wherein the timing equalizer filter includes pre-determined filter coefficients based on use with a communications loop of moderate length.

4. (Currently Amended) The improved data communications receiver of claim 1 wherein the timing loop comprises an early-late timing loop, the phase detector having a signal input functionally linked to an output of the timing equalizer filter, a loop filter functionally coupled to an error signal output of the phase detector, and a voltage controlled oscillator functionally positioned between the loop filter and the timing equalizer filter.

5. (Previously Presented) An improved method of acquiring and maintaining signal timing between a data communications transmitter and receiver connected at respective central and remote ends of a communications loop, where the receiver includes a timing loop and a linear equalizer operable to compensate for distortion of a received data signal caused by the communications loop, the improvement comprising the steps of:

a. setting filter coefficients in a timing equalizer filter that is functionally positioned in the timing loop;

b. passing the received data signal through the timing equalizer filter prior to inputting the received data signal to a phase detector portion of the timing loop; and

c. operating the timing equalizer filter within the timing loop in a data path separate from the linear equalizer.

6. (Currently Amended) The method of claim 5 wherein the step of setting the filter coefficients in the timing equalizer filter is performed by copying equalizer coefficients generated in a training mode.